



2Wire Gateway Installation Guide

For 2000 Series



Notice to Users

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Regulatory Information



Getting Started

Remove or Disable Conflicting Applications

Internet sharing software and PC based firewall applications typically interfere with the 2Wire gateway, and should be removed or disabled before you install the gateway. The 2Wire gateway provides the same features as the products listed below.

If you have any of the following (or similar) applications installed on your computers, remove or disable them according to the manufacturer's instructions before proceeding.

| Internet Sharing Applications | Proxy Software | Security Software |
|---------------------------------------|----------------|--------------------------|
| Microsoft Internet Connection Sharing | Wingate | Norton Internet Security |
| Intel Anypoint ISS | Sygate | Black Ice |
| 3Com HomeClick | | Zone Alarm |

Check Your Computer's Browser and System Requirements

Verify that your computers meet the following minimum requirements:

Browser Requirements

Windows: Microsoft Internet Explorer 6.0 or higher (included on the 2Wire CD), Netscape Navigator 4.7 or higher, **or** Firefox 1.0 or higher.

Macintosh: Safari 1.0, Microsoft Internet Explorer 5.0, **or** Netscape 4.74 or higher.

System Requirements

- 5 MB of available hard disk space for 2Wire gateway software.
- Windows XP, Windows 2000, Windows NT 4.0 with Service Pack 6, Windows ME, Windows 98/98SE, or Mac OS 8.6 or higher.
- Network adapter (such as Ethernet , USB, or 802.11b/g wireless).

Connect the First Computer to the Gateway

Congratulations on the purchase of your 2Wire gateway. To install your gateway and configure your network, follow these steps.






Note: Features for different models may vary. Product details will be specified for each particular model.

Choose a Computer and Connection Type

There are many ways to set up your network, but typically the first computer is located in the same room as the gateway and your DSL connection. Ethernet is the preferred connection method for your first computer, although instructions for connecting via wireless and USB are also provided.

The first computer you connect to the network is used to configure the 2Wire gateway for proper operation. Choose one of the following methods to connect your first computer to the gateway. Save and close all open programs before you begin connecting your gateway.

| | Connection Type | Page |
|---|-----------------|--------|
|  | Ethernet | page 4 |
|  | Wireless | page 5 |
|  | USB | page 8 |

Install the DSL Filter



Note: New DSL customers only. Existing DSL customers with filters already installed should proceed to Ethernet Connection on page 4, Wireless Connection on page 5, or USB Connection on page 8.

Regular telephone and Digital Subscriber Line (DSL) signals are carried over the same line. Converting your regular telephone line to DSL can cause high-pitched tones and static when using the phone.

Installing a filter on every telephone or telephone device sharing the same telephone number as your DSL¹ separates these signals and eliminates the noise.

1. Do not install DSL filters if your telephone line is only carrying a DSL signal.

To install the DSL filter:

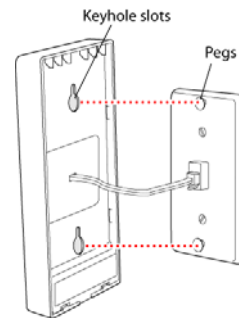
1. Locate the phone jack where you want to connect your 2Wire gateway.
2. Insert the DSL filter into the jack.
3. If you have a phone, answering machine, fax machine, satellite TV equipment, or other phone device in this jack location, plug it into the filter port labeled **PHONE**.
4. Install a DSL filter on *all* other phone devices in your house (such as dial-up modems, fax machines, caller ID devices, and set top boxes). Plug each of these devices into the filter port labeled **PHONE**.



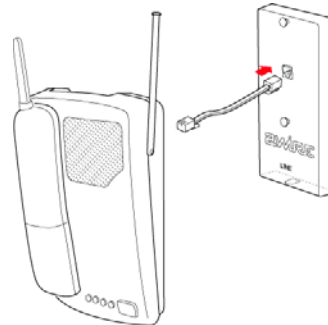
For Wall-Mounted Phones

If you have a wall-mounted telephone, install a wall-mount DSL filter following these steps.

1. Lift the telephone from the wall pegs and disconnect the phone cord from the wall jack.
2. Connect the telephone cord from the back of the DSL filter into the wall jack. Align the keyhole slots on the filter with the wall plate pegs and press down gently to secure.



3. Connect the telephone cord to the phone jack located on the front of the mounted filter.



4. Attach the telephone to the mounting pegs on the DSL filter and your installation is complete.



Note: The extra phone jack located at the bottom of the filter (labeled **LINE**) is provided should you wish to connect your gateway at this phone connection.

Ethernet Connection

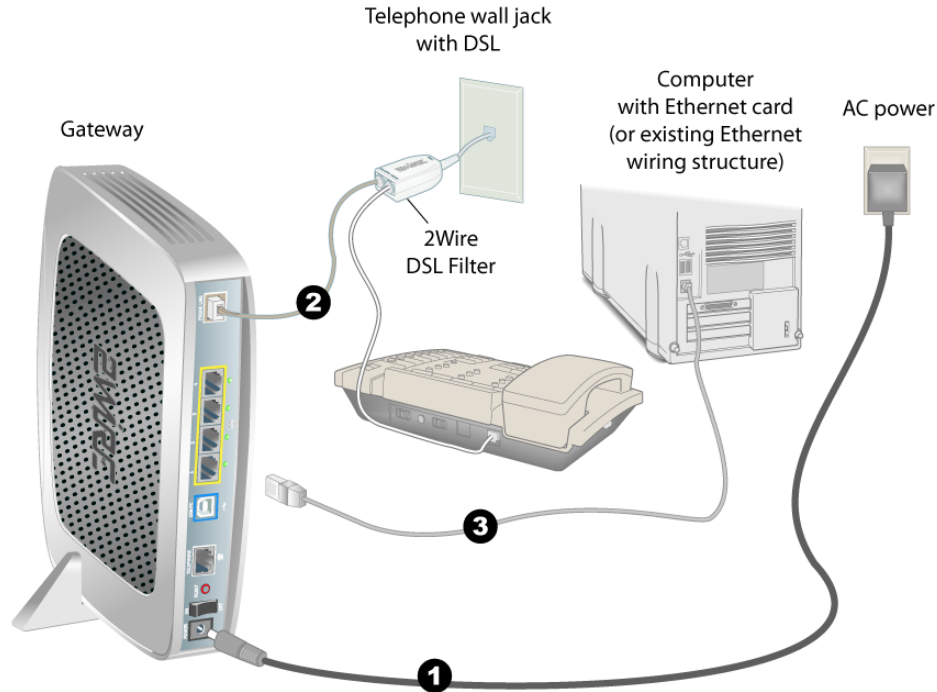


Figure 1. Gateway Connected Via Ethernet

1. Connect the provided power adapter from the gateway's **POWER** port to an electrical outlet. The **POWER** light on the front of the gateway should be green.
2. Connect the provided gray phone cable from the gateway's **PHONE LINE** port to the DSL filter jack labeled **DSL/HPNA**.
3. Connect the yellow Ethernet cable provided with the gateway from any available **ETHERNET** port on the gateway to your computer's Ethernet port.

Check Your Connections

With your computer completely started, verify the **POWER** and **ETHERNET** indicator lights on the front of the 2Wire gateway are green. If they are not, see "Understanding the Indicator Lights" on page 19. *The **INTERNET** indicator light will not turn green until the gateway software has been installed and an Internet connection has been established.*

Wireless Connection

Requires wireless-enabled notebook or a computer with an 802.11b/g wireless network adapter installed. Wireless adapters can be purchased from your service provider.



Note: The 2Wire 2070, 2070V, and 2070B gateways do not include wireless support. If you are using a 2Wire 2070, 2070V, or 2070B gateway, skip this section.

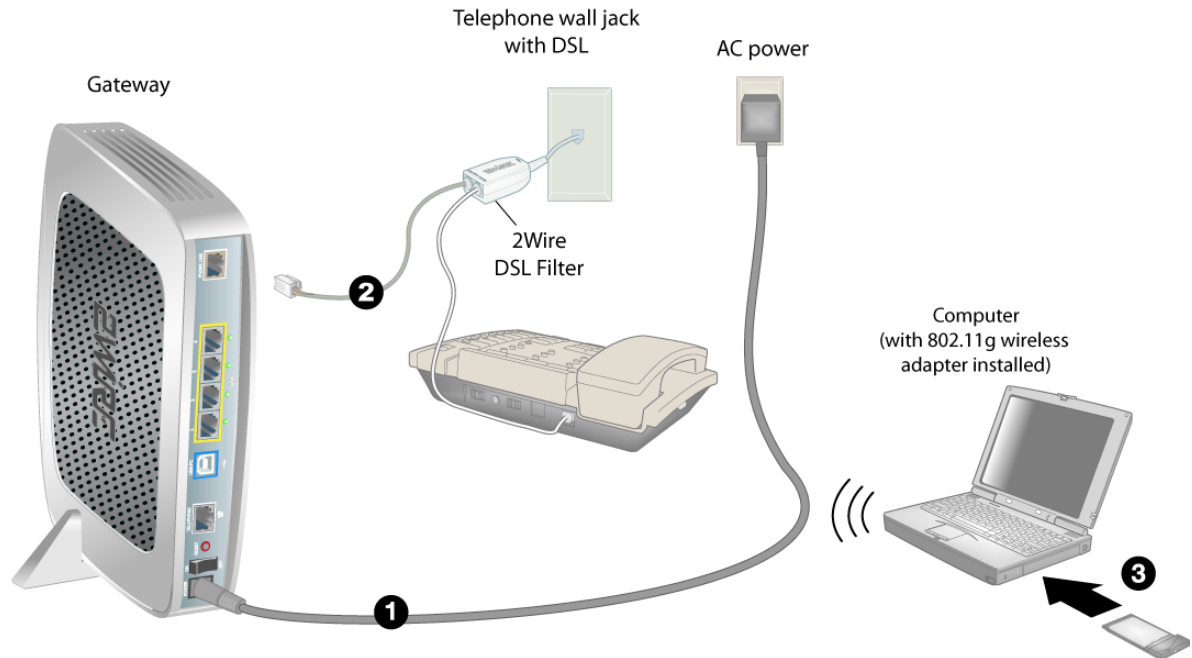


Figure 2. Gateway Connected Via Wireless

1. Connect the provided AC power adapter from the 2Wire gateway's **POWER** port to an electrical outlet. The **POWER** light on the front of the gateway should be green.
2. Connect the provided gray telephone cable from the gateway's **PHONE LINE** port to a telephone jack with DSL service.
3. Install your wireless adapter according to the manufacturer's instructions (see note below).



Note: If you use a 2Wire wireless adapter (PCI, PC card, or USB adapter) for wireless networking, the 2Wire CD automatically configures it to communicate with the gateway during setup. If you are **NOT** using a 2Wire wireless adapter, you must manually configure your adapter to communicate with the gateway using the information on page 7.

Check Your Connections

With your computer completely started, verify the **POWER** and **WIRELESS** indicator lights on the front of the 2Wire gateway are green. If they are not, see “Understanding the Indicator Lights” on page 19. *The **INTERNET** indicator light will not turn green until the gateway software has been installed and an Internet connection has been established.*

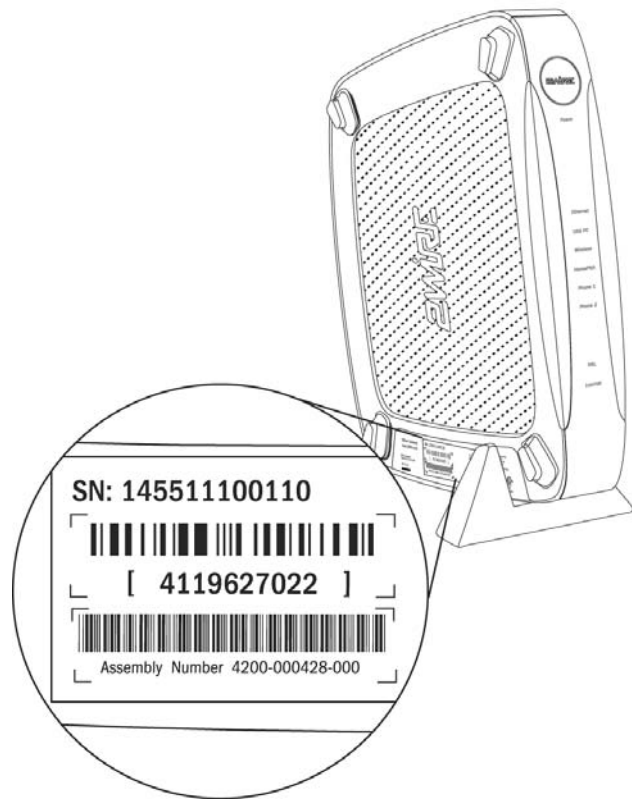
Non-2Wire Wireless Adapter Configuration

Locating the Serial Number and Wireless Encryption Key

The serial number of your 2Wire gateway is used as the network name (SSID). Beneath the serial number is a ten-digit number which is used as the encryption key. These are located on the bottom of your gateway (shown in vertical orientation). You will need this information to configure your wireless adapter.

Configuring the Adapter

1. Install and configure your wireless adapter according to the manufacturer's instructions.
2. Use the network adapter configuration software or Windows network connection wizard to set the network name (SSID) and encryption key (WEP).
 - a. The network name is the word "2WIRE" (in all capital letters), followed by the last three digits of the gateway serial number (for example, 2WIRE110).
 - b. The encryption key is a 64-bit hex value, located beneath the bar code on the bottom of the 2Wire gateway. In the example, it is 4119627022.
 - c. For Mac OS X users, you may need to enter the "\$" character at the beginning of the encryption key (for example, \$4119627022).



USB Connection



Note: The 2Wire 2070B gateway does not include USB support. If you are using a 2Wire 2070B gateway, skip this section.

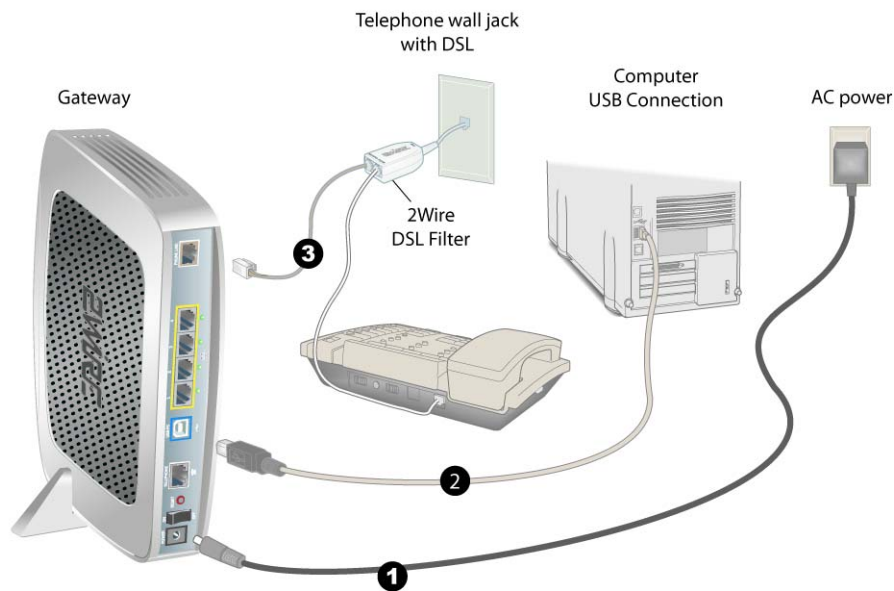


Figure 3. Gateway Connected Via USB

1. Connect the provided AC power adapter from the 2Wire gateway's **POWER** port to an electrical outlet. The **POWER** light on the front of the gateway should be green.
2. Connect the provided blue USB cable from the gateway's **USB-PC** port to the USB port on your computer.
3. Connect the provided gray telephone cable from the gateway's **PHONE LINE** port to a telephone jack with DSL service.

Install the 2Wire Gateway USB Driver - Windows

1. Power on your computer and place the 2Wire CD in your computer's CD-ROM drive.
2. If the Add Hardware Wizard displays, follow the on-screen instructions. If prompted to identify where to search for drivers, deselect **Floppy Disk drive** and check **CD-ROM drive**.
3. After the driver installs click **Finish** to complete the driver installation. The Setup Wizard will resume when your PC has rebooted.



Note: Microsoft Windows 98 users may be prompted to insert the Windows 98 installation CD-ROM after installing the 2Wire gateway USB drivers. After the Windows 98 updates are complete, remove the Windows 98 CD and reinsert the 2Wire CD into your CD-ROM prior to rebooting your PC.

Install the 2Wire Gateway USB Driver - Macintosh



Note: The 2Wire gateway supports USB for Macintosh OS 8.6, 9.2, 10.1.4, 10.1.5, 10.2.0, 10.2.1 to 10.2.6, 10.3.3 to 10.3.9, 10.4.0, and 10.4.1.

Before making your USB connection to the gateway, you must install the 2Wire gateway USB driver on your computer. The following instructions are for USB installation on Macintosh computers running OS 10.2.

1. Power on your computer and place the 2Wire CD in your computer's CD-ROM drive.
2. Double-click the 2Wire CD icon on your desktop.
3. Double-click 2Wire USB to begin the driver installation.
4. If you have set up an administrator name and password, the Authenticate screen opens. Enter your administrator name and password and click **OK**.
5. Follow the on-screen instructions. When the driver installation is complete, you will be prompted to restart your computer.
6. After your computer restarts, connect the provided blue USB cable from the **USB-PC** port on the 2Wire gateway to your computer's **USB** port.

Check Your Connections

With your computer completely started, verify the **POWER** and **USB-PC** indicator lights on the front of the 2Wire gateway are green. If they are not, see "Understanding the Indicator Lights" on page 19. *The **INTERNET** indicator light will not turn green until the gateway software has been installed and an Internet connection has been established.*

Run the 2Wire Setup Wizard

Windows XP/2K/ME/98SE

1. Insert the 2Wire CD and follow the on-screen instructions. If the 2Wire Setup Wizard does not automatically start:
 - Double-click the My Computer icon located on the desktop.
 - Double-click the icon that corresponds to your CD-ROM drive.
 - Double-click Setup.exe and follow the on-screen instructions.
2. If prompted by the Setup Wizard, enter the 20-digit key code you received from your service provider. If you were not provided with a key code, contact your service provider.

Macintosh OS 10.1.4/10.1.5/10.2.0 - 10.2.8/10.3.3 - 10.3.8






Note: MAC OS 9.X AND OTHER OPERATING SYSTEM USERS: Users running Mac OS 9.X and operating systems other than those stated above must perform a manual configuration of the gateway. Refer to “Appendix A: Install the Gateway on Other Operating Systems” on page 21 for step-by-step instructions.

1. Insert the 2Wire CD.
2. Double-click the 2Wire icon.
3. Double-click the 2Wire Setup Wizard icon.
4. If prompted by the Setup Wizard, enter the 20-digit key code you received from your service provider. If you were not provided with a key code, contact your service provider.

Add Computers to the Network

After your first computer is connected to the 2Wire gateway and your Internet connection has been established, you can connect other computers to the network.

Use any of the following methods to connect additional computers to your network.

| | Connection Type | Page |
|---|-----------------|---------|
|  | Ethernet | page 12 |
|  | USB | page 13 |
|  | Wireless | page 14 |

Ethernet Connection

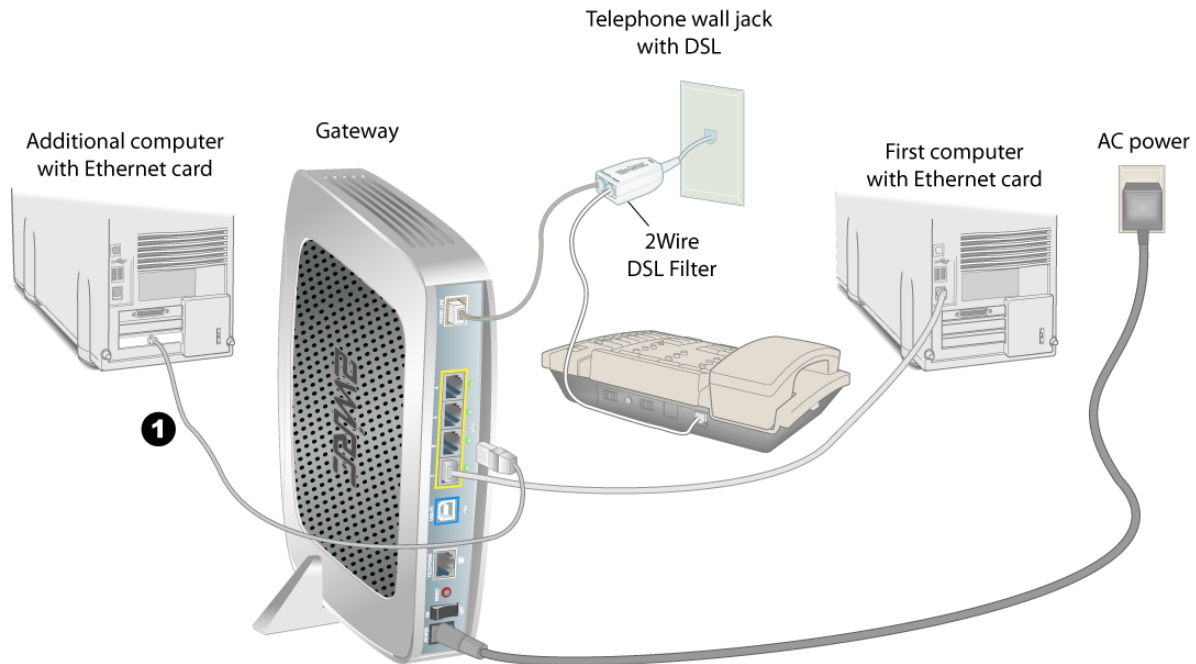


Figure 4. Gateway Connected to Second Computer Via Ethernet

1. Connect an Ethernet cable from any available **ETHERNET**¹ port on the gateway to your computer's Ethernet port.

1. The number of Ethernet ports vary by model (from one to four). If your gateway has four Ethernet ports, you can connect up to four computers to your network via Ethernet.

USB Connection

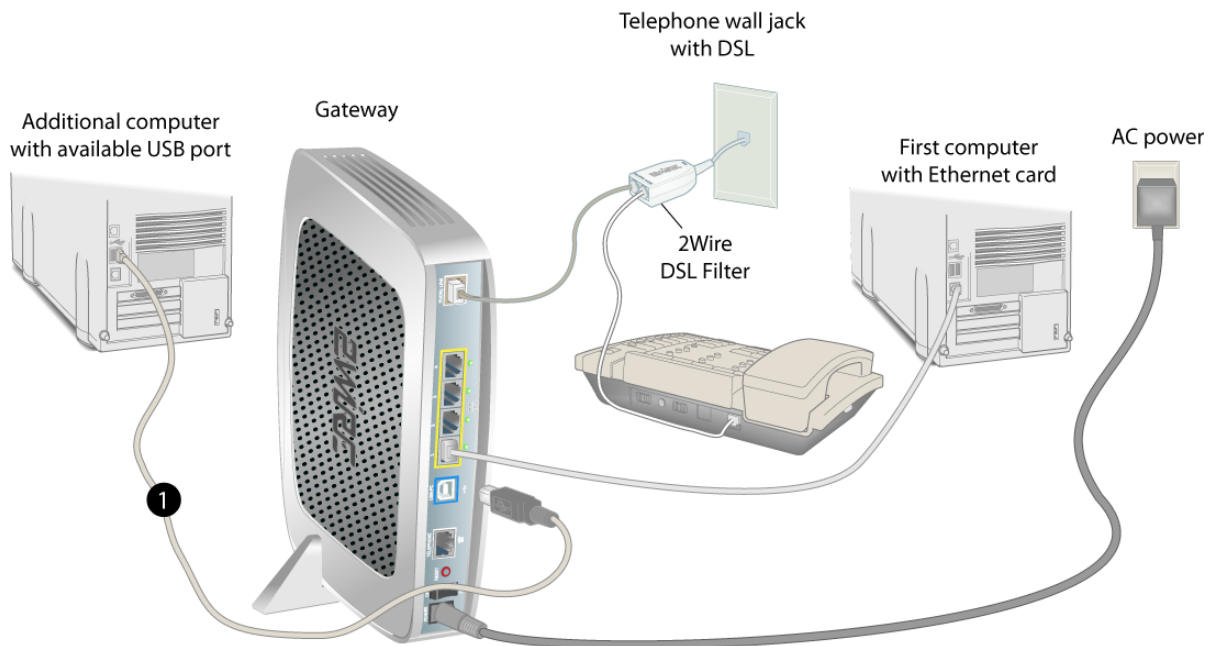


Figure 5. Gateway Connected to Second Computer Via USB

1. Connect the provided blue USB cable from the gateway's **USB-PC** port to the USB port on your computer.
2. Install the USB driver (refer to page 9 for instructions).
3. Repeat "Run the 2Wire Setup Wizard" on page 10.

Wireless Connection

Requires a computer with an 802.11b/g wireless network adapter installed. Wireless adapters are purchased separately from the 2Wire gateway.



Note: The 2Wire 2070 and 2070V gateways do not include wireless support. If you are using a 2Wire 2070 or 2070V gateway, skip this section.

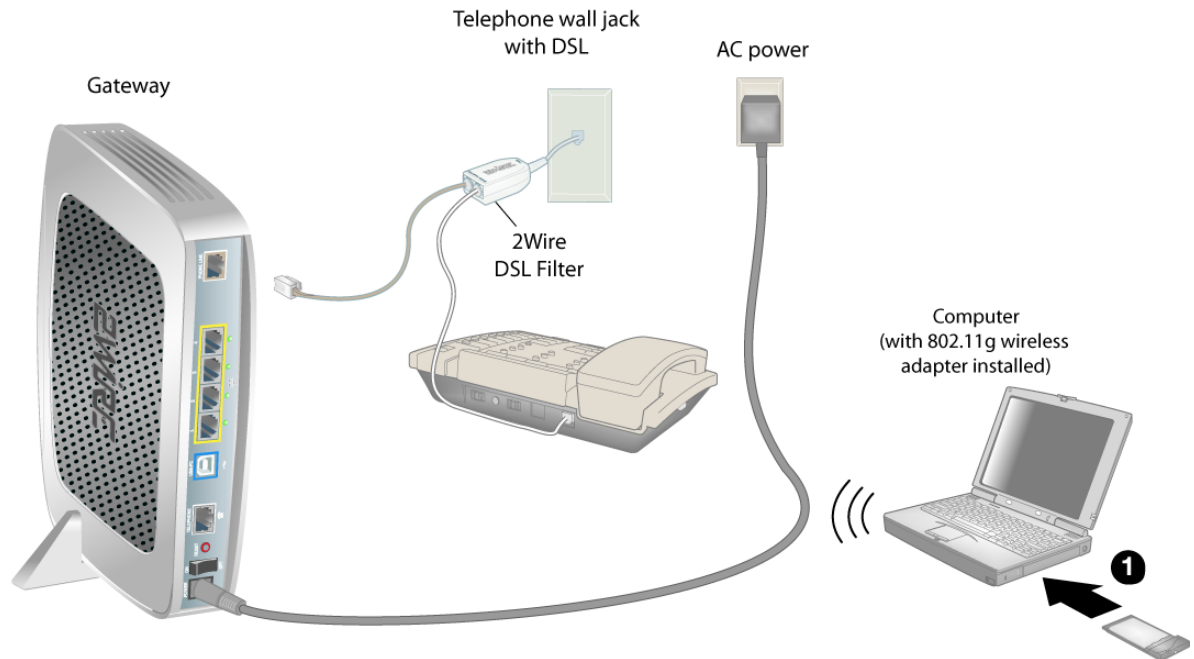


Figure 6. Gateway Connected to Second Computer Via Wireless



Note: If you use a 2Wire wireless adapter (PCI, PC card, or USB adapter) for wireless networking, the gateway installation software automatically configures it to communicate with the gateway during setup.

If you are *NOT* using a 2Wire wireless adapter, you must manually configure your adapter to communicate with the gateway using the information on page 7.

1. Install your wireless adapter according to the manufacturer's instructions (see note above).
2. Repeat "Run the 2Wire Setup Wizard" on page 10.

Diagnostics



Note: Broadband Redirect Messages are visible only if they have been enabled by your service provider, and the physical appearance may vary from the examples shown.

Understanding Broadband Redirect Messages

If the 2Wire gateway detects a connection problem or an intermittent service error, it generates an error or alert (Broadband Redirect Message) and displays the message within your web browser. The following messages contain information that can help you resolve some of the most common installation or network conflicts.

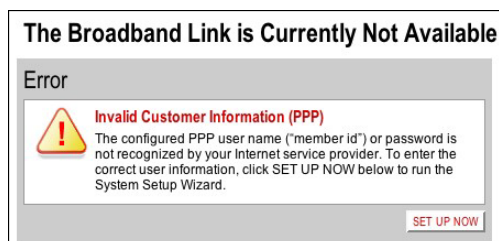
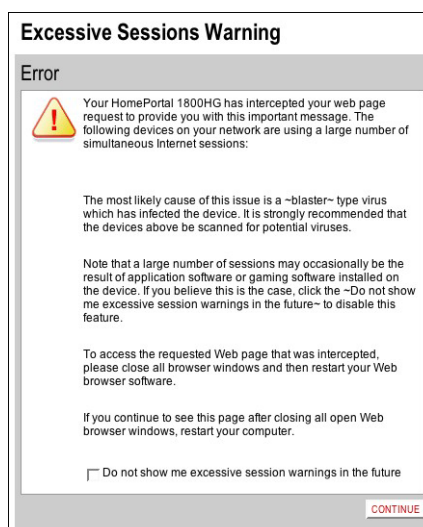
Excessive Sessions Warning

This error message typically occurs when your PC has been infected with the Blaster Virus or similar agent. The error message appears because too many simultaneous Internet sessions are opened, which impairs both network and PC performance. Check the PC with an anti-virus program using the latest virus updates to identify and remove the infection.

There may be cases where certain applications running on a PC mimic the excessive session characteristics, creating a false positive error condition. If you are certain that no viruses are present on the PC, enable the **Do not show me excessive session warnings in the future** checkbox.

Invalid Customer Information (PPP)

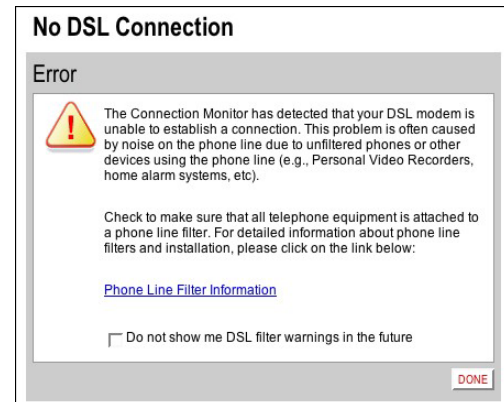
This error message results from an incorrect PPP user name and/or password. Click the **Set Up Now** button to re-enter the correct PPP information and attempt to connect to the broadband network.



No DSL Connection - Unable to Train

When setting up a DSL broadband network, all active phone devices must have a phone line filter installed. Without the filter, the DSL connection will be unstable, resulting in a poor or no DSL connection.

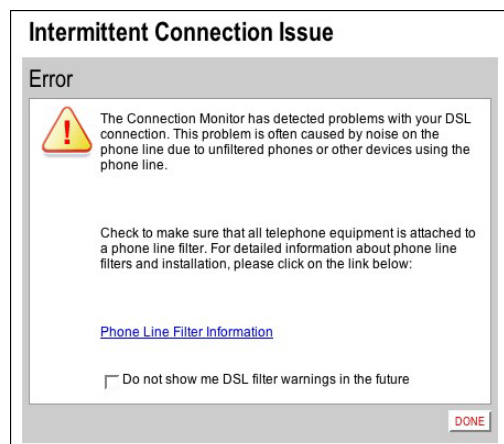
If phone line filters are missing, line noise and/or echo can affect the DSL connection. This error message occurs when the noise level is so high that the gateway cannot establish a DSL connection. To resolve this problem, inspect all active phone connections (including home security systems, fax machines, etc.) and verify that all devices have a phone line filter installed. Once all phone lines are properly filtered, try to connect to the broadband network.



Intermittent Connection Issue - Uncanceled Echo

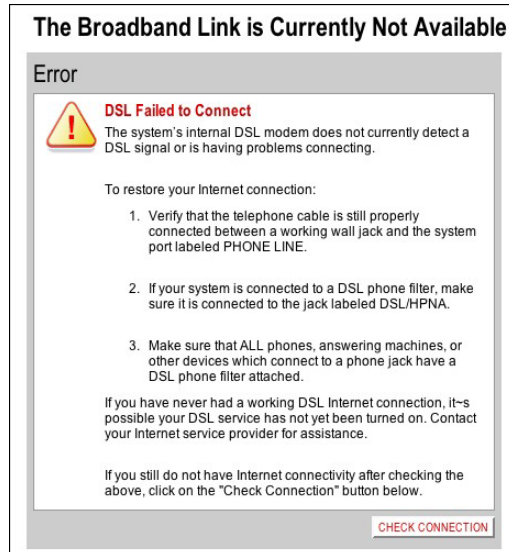
When setting up a DSL broadband network, all active phone devices must have a phone line filter installed. Without the filter, the DSL connection will be unstable, resulting in a poor or no DSL connection.

If phone line filters are missing, line noise and/or echo can affect the DSL connection. This error message occurs when the noise level is so high that it impacts the quality of your DSL broadband connection. To resolve this problem, inspect all active phone connections (including home security systems, fax machines, etc.) and verify that all devices have a phone line filter installed. Once all phone lines are properly filtered, try to connect to the broadband network.



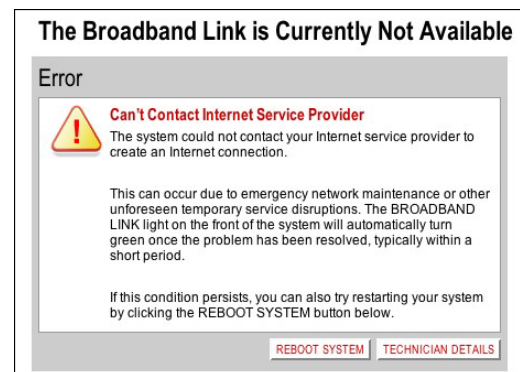
Broadband Link is Currently Not Available - DSL Connection Issue

This error message is displayed because the gateway was unable to establish a broadband network connection. Check to ensure that all cable are correctly connected and the cable end securely attached to the port. In addition, verify that you are connecting on or after the date specified by your service provider for DSL service availability.



Broadband Link is Currently Not Available - Connection Error

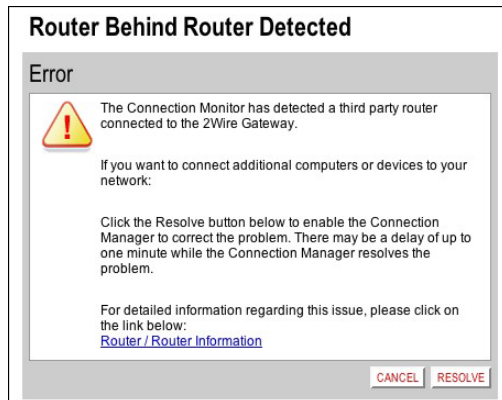
The gateway was unable to communicate with the service provider network. This could be due to failed network equipment or a temporary outage. When the Internet light on the gateway is green, attempt to connect to the DSL network.



Router Behind Router Detected

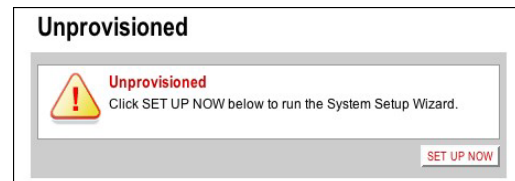
If the gateway detects the presence of a third-party router, the Router Behind Router error page displays. If a third-party router is connected to the 2Wire gateway, network instability can result because both devices are trying to manage private IPs via NAT.

The best solution is to remove the third-party router from your LAN since the 2Wire gateway can manage your home network. If this option is not acceptable, move the third-party router to DMZPlus Mode by clicking the **Resolve** button.



Provision Gateway

This error message is displayed if you attempt to access the Internet before configuring your gateway with the correct PPP credentials (username and password). Click the **Set Up Now** button to enter the PPP username and password provided to you by your service provider. After you have completed this process, you should be able to access the Internet.



Understanding the Indicator Lights

The 2Wire gateway has numerous indicator lights that can be used to diagnose installation and connection problems. The following table describes how to interpret the indicator lights.



| Power Light | Operating State |
|-----------------------------------|--|
| OFF | The gateway is not getting power. |
| Blinking green (slow) | The gateway is undergoing POST (power-on self test). |
| Solid green | Power is on. |
| Blinking orange | The gateway is undergoing a software upgrade. |
| Solid red | System error. Contact Technical Support. |
| Ethernet , USB, or Wireless Light | Operating State |
| OFF | The gateway is powered off or booting up. |
| Solid green | Device(s) connected via Ethernet, USB, or Wireless. |
| Flickering green | Data traffic is coming into or going out from the network. |
| Phone 1 or Phone 2 Light | Operating State |
| OFF | Voice service is not operating. The gateway is powered off or booting up. |
| Solid green | Voice service is operating. |
| Blinking green (fast) | Voice service is operating; phone is off hook. |

| DSL Light | Operating State |
|-----------------------|---|
| OFF | The gateway is powered off or booting up. |
| Blinking green (slow) | The gateway is attempting to establish a connection to your broadband service(s). |
| Blinking green (fast) | The gateway has been unable to connect to the DSL signal for more than three minutes. |
| Solid green | The gateway is fully connected to your broadband service(s). |
| Internet Light | Operating State |
| OFF | The gateway has been unable to detect a DSL signal. DSL signal detected; the gateway is attempting to train. |
| Blinking green (fast) | The gateway is attempting to establish a connection to your broadband service(s). |
| Solid red | The gateway cannot connect to your broadband service. |

Appendix A: Install the Gateway on Other Operating Systems

Follow these instructions if you are using an operating system that is not supported by the 2Wire CD (such as any Macintosh OS prior to 10.2, UNIX, or Linux).

There are many ways to set up your network, but typically the first computer is located in the same room as the gateway and your DSL connection. Ethernet is the preferred connection method for your first computer, although instructions for connecting via USB are also provided.

Ethernet Connection

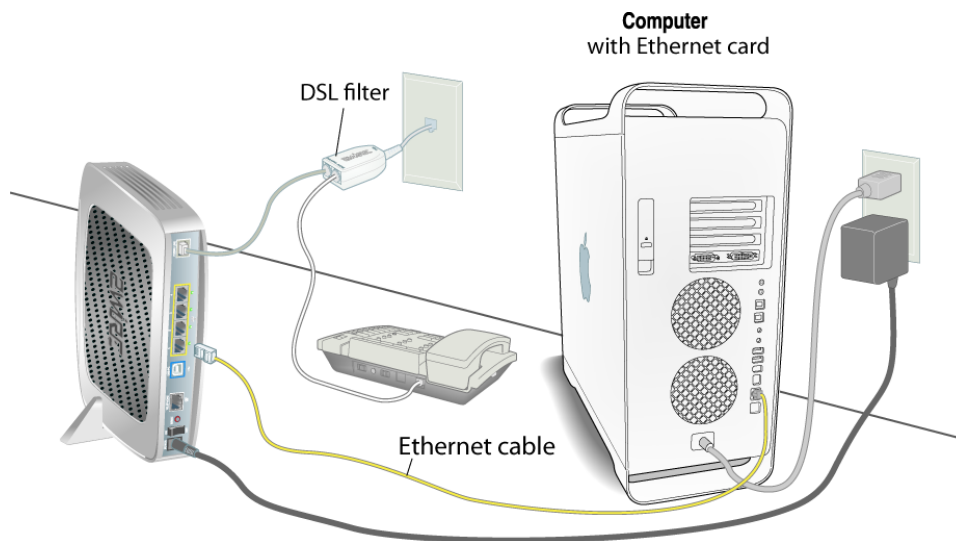


Figure 7. Gateway Connected Via Ethernet (Macintosh)

1. Install DSL phone filters according to the instructions on page 2.
2. Connect the provided power adapter from the gateway's **POWER** port to an electrical outlet.
3. Connect the provided gray phone cable from the gateway's **PHONE LINE** port to the DSL filter jack labeled DSL/HPNA.
4. Proceed to "Configuring the Internet Connection" on page 23.

USB Connection

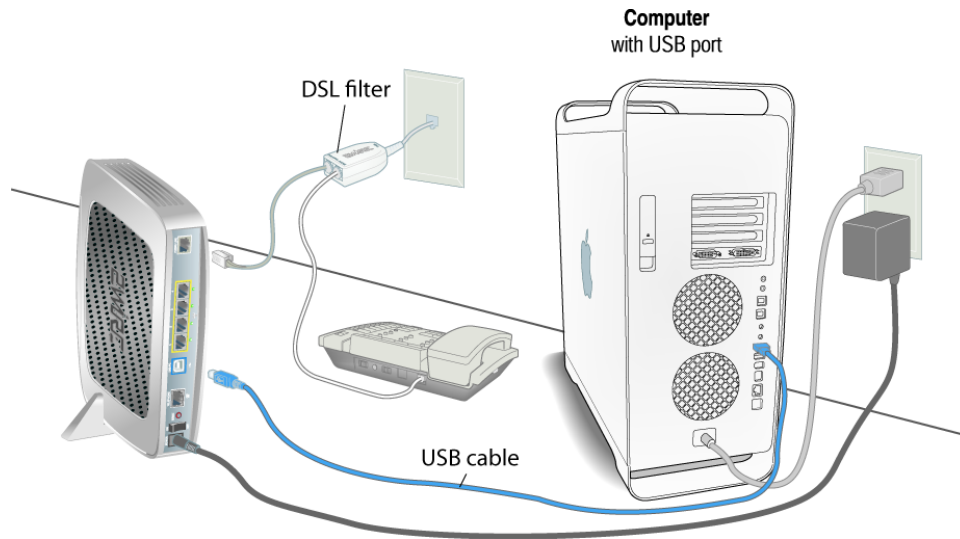


Figure 8. Gateway Connected Via USB (Macintosh)



Note: Connecting your computer to the gateway using USB requires an available USB port. Only one Windows or Macintosh computer can be directly connected to the 2Wire gateway using the USB connection.

1. Install DSL phone filters according to the instructions on page 2.
2. Insert the 2Wire CD in the computer's CD-ROM drive.
3. Double-click the 2Wire CD icon on your desktop.
4. Double-click **2Wire USB** to begin the driver installation.
5. If you have set up an administrator name and password, the Authenticate screen opens. Enter your administrator name and password and click **OK**.
6. Follow the on-screen instructions. When the driver installation is complete, you will be prompted to restart your computer.
7. After your computer restarts, connect the provided blue USB cable from the **USB-PC** port on the 2Wire gateway to your computer's USB port.
8. Open the network Control Panel by selecting the **Apple icon > Control Panel > TCP/IP**
9. Verify that "Connect Via: 2Wire USB Remote NDIS..." is selected to set the network adapter as active.
10. Click **Save** to complete your installation.
11. Proceed to "Configuring the Internet Connection" on page 23.

Configuring the Internet Connection

Now that your first computer is connected to the gateway, you need to configure your gateway to communicate with your Internet service provider.

To activate your Internet account:

1. Open your Internet browser.
2. Type <http://gateway.2wire.net/setup> into the browser's address line.
3. When prompted to enter a key code, enter the key code provided by your Internet service in the key code field, and click **NEXT**.
4. Select your Local Time Zone and click **NEXT**.
5. You may be prompted to enter service provider information such as username and password. Enter any required service provider information and click **NEXT**.
6. The connection process will begin. During this process the **INTERNET** light on the front of the gateway will first blink green then turn solid green. This step could take up to five minutes as the gateway searches for your broadband service.
7. The gateway will now connect to the Internet. This process may take several minutes. If the registration screen opens, click the **REGISTER** button and complete the 2Wire registration process.

Regulatory Information

Declaration of Conformity

Trade Name: 2Wire
Responsible Party: 2Wire, Inc.
Address: 1704 Automation Parkway
San Jose, CA

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

Only peripherals (computer input/output devices, terminals, printers, and so forth) that comply with FCC Class B limits may be attached to this computer product.

Operation with noncompliant peripherals is likely to result in interference to radio and television reception.

All cables used to connect peripherals must be shielded and grounded. Operation with cables, connected to peripherals that are not shielded and grounded may result in interference to radio and television reception.

WARNING: While this device is in operation, a separation distance of at least 20 cm (8 inches) must be maintained between the radiating antenna inside the ERU and the bodies of all persons exposed to the transmitter in order to meet the FCC RF exposure guidelines. Making changes to the antenna or the device is not permitted. Doing so may result in the installed system exceeding RF exposure requirements. This device must not be co-located or operated in conjunction with any other antenna or radio transmitter. Installers and end users must follow the installation instructions provided in this guide.

FCC Part 68

This equipment complies with Part 68 of the FCC rules. On the bottom of this equipment is a label that contains, among other information, the FCC equivalence number (REN) for this equipment. If requested, this information must be provided to the telephone company.

The REN is used to determine the quantity of devices that may be connected to the telephone line. Excessive RENs on the telephone line may result in the devices not ringing in response to an incoming call. In most, but not all areas, the sum of the RENs should not exceed five. To be certain of the number of devices that may be connected to the line, as determined by the total RENs, contact the telephone company to determine the maximum REN for the calling area.

If the terminal equipment causes harm to the telephone network, the telephone company will notify you in advance that temporary discontinuance of service may be required. But if advance notice is not practical, the telephone company will notify the customer as soon as possible. Also, you will be advised of your right to file a complaint with the FCC if you believe it is necessary.

The telephone company may make changes in its facilities, equipment, operations or procedures that could affect the operations of the equipment. If this happens, the telephone company will provide advance notice in order for you to make the necessary modifications in order to maintain uninterrupted service.

If trouble is experienced with this equipment, please contact the store, reseller, or agent from whom the product was purchased.

Repair of this equipment should be made only by the 2Wire Service Center or a 2Wire authorized agent.